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ECHT - TOOLS FOR TRACEABILITY

Chemicals Traceability Canvas

WORKBOOK

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BACKGROUND AND GOALS

Implementing chemicals traceability along global value chains is a complex and interactive process that requires a thorough and holistic understanding of current processes and goals in one's own organisation as well as the supply chain related to this. As a means to quickly cover all these topics in a first easy-to-access manner, the "Chemicals Traceability Canvas for Textiles" is a structured framework that outlines the key stages and fields to address in the process of implementing chemicals traceability along textile value chains. This tool is largely based on the well established business model canvas. However, in this case, the Chemicals Traceability Canvas (CTC) is divided into four sub-canvases that allow for deeper elaboration of critical aspects to be addressed.

The concept of the "Business Model Canvas" (BMC) was proposed by Osterwalder in 2005 and refined since then. According to van Boeijen and colleagues the canvas "as a tool can be used in various stages of the development process [...] The Business Model Canvas serves as a checklist to generate business ideas; it also structures, discusses, and evaluates these ideas on a conceptual level" (Boeijen et al., 2020).

The Chemicals Traceability Canvas makes use of a similarly conceptual and graphical structure while comprising more refined elements and specific impulse questions divided into four separate sheets to raise awareness and guide design processes. It aims at supporting the implementation of chemicals traceability in organisations in an iterative and exploratory manner. This shall be achieved by providing a quick and multi-perspective overview of relevant topics and considerations.

One reason for this approach is traceability cannot be implemented by one department or even one expert alone but is rather an interdisciplinary cross-organisational effort. Since all organisations and value chains are unique, there is no one-size-fits-all solution but rather individual exploratory and iterative approaches through which organisational and technical structures are rearranged and new business cooperations are formed.

The herewith presented canvas does by no means compensate for all the challenges and the complexity this entails, but aims at empowering teams to take first steps towards chemicals traceability based on a broadened scope while identifying organisational and knowledge gaps or the need for specific experts to be consulted or included.

The canvas, therefore, does not replace thorough analysis of these aspects and gaps, but rather aims at providing a multi-perspective overview and explorative impulse. In line with this, the canvas is not a scientific analysis tool that will directly lead to the implementation of chemicals traceability. Its main function is to illustrate a comprehensive overview that informs and guides the process through structure and impulse questions. In this way, otherwise potentially neglected issues are put into the centre of attention.

Osterwalder, A.; Pigneur, Y. Business model generation. A handbook for visionaries, game changers, and challengers. Wiley&Sons: New York, USA, 2013.

van Boeijen, A.; Daalhuizen, J.; Zijlstra, J. Delft design guide. Perspectives, models, approaches, methods. Revised edition. BIS Publishers: Amsterdam, The Netherlands. 2020. p. 135.

▶ INSTRUCTIONS ON HOW TO USE IT...

The complexity inherent to implementing chemicals traceability requires an interdisciplinary systems thinking approach. Teams might be confronted with contradicting targets that make it even more difficult to define a proper briefing and strategic plans.

The canvas is not meant to be a strict formula or checklist but rather an exploratory analysis and conceptualisation tool that can be used and revisited (iterative process) at any stage throughout the implementation process of chemicals traceability.

Boxes and questions do not necessarily have to be addressed in order of appearance. While not all impulse questions might apply to each organisation and its current state, they could raise awareness or identify gaps of knowledge that need to be addressed before moving on in the implementation process. Therefore, the canvas is both explorative inspiration as well as a simplified evaluation tool.

The format as a simple poster with boxes allows to answer and reflect on the impulse questions in any way that fits the organisational processes of your team. Sticky notes and schematic skechtes are just as suitable as written text blocks.

The canvas can be filled out by one person alone or as part of a workshop or team effort. It is recommended to use the canvas in an iterative manner. At the same time, the canvas can be used and adjusted to the needs of each individual organisation. Therefore, team workshops might require more space or additional worksheets to go deeper into specific boxes or topics. Especially with regards to workshops, it can be useful to combine the canvas with other tools and techniques from the field of design thinking. Workshops applying this canvas should be planned and orchestrated according to the usual principle of design- and brainstorming workshops, curating an open mind-set and appreciating new, disruptive and sometimes unrealistic ideas to go beyond current concepts and solutions. After each workshop, the canvas worksheets should be analysed in detail by the workshop facilitator to extract insights and concepts that otherwise might be lost.

One of the most important aspects of working with the canvas is to identify and indicate relations and interdependencies. Therefore, it is recommended to use arrows, lines and other graphical or written information to illustrate connections and foster systems thinking.

The canvas then is a starting point of actual implementation activities that might lead to new insights and challenges that again could be fed back to one of the canvas sheets.

OVERALL STRUCTURE

The chemicals traceability canvas is divided into four sheets. Three of them relate to the status quo in an organisation while the fourth sheet addresses future strategies and processes:

1. STATUS QUO: STARTING POINTS

This first canvas focuses on the key parameter and conceptual starting points in a 4-steps-process. The first section „about“ deals with the basic descriptive data

about the organisation at hand. The following three steps consider the product, relevant actors and the regulatory context.

2. STATUS QUO: OBJECTIVES & VISION

The second canvas deep-dives into the goals for implementing traceability. In doing so it addresses both the objectives of one's own organisation as well as the value chain partner's objectives. By defining specific chemicals traceability KPIs and outlining a valid business model for implementing chemicals traceability, this board aims at setting actionable goals for the further process.

3. STATUS QUO: CURRENT PRACTICE & IMPLEMENTATION GAPS

The third canvas zooms into the current state of the organisation and the delta between the goals and objectives formulated on sheet 2 and the status quo. Current practices are differentiated between input of data and the management of this data in and beyond the organisation. Lastly, barriers, gaps and other issues are considered that inhibit the implementation of chemicals traceability.

4. FUTURE OUTLOOK: STRATEGIES & PROCESSES

Finally, the fourth canvas sheet deals with specific strategies and processes to implement or expand chemicals traceability. Three sections are distinguished: people involved, data management and technology. While there certainly are overlaps of these three topics, it is recommended to consider them individually before addressing the interdependencies.

ITERATIONS

It is crucial to understand the chemicals traceability canvas as an iterative tool that can be used and re-used throughout the process of implementing traceability. As some organisations might be more experienced and advanced in their effort to implement chemicals traceability, certain sheets and boxes might be more relevant for them than others.

At the same time, identifying gaps and challenges while using the canvas for the first time, offers the chance to come back to the canvas after they have been addressed in an organisation.

In doing so, the canvas can be seen both as an exploratory and guiding tool as well as an evaluational support.

OPEN-END TEMPLATE

Although this canvas has been co-developed and tested with industry partners and an interdisciplinary group of scientific experts, there might be organisations or phases for which important aspects or new trends are entirely missing. Users of the canvas should therefore feel free to adjust and extent the canvas according to the needs of their project. We encourage users who have feedback and ideas for improvement to get in touch with us (echt@h-da.de).

▶ NOTES

Chemicals Traceability Canvas

STATUS-QUO | STARTING POINTS

Filled-out by:	Project:	Iteration No.:	Date:

1. ABOUT

Current internal resources

What are the actual human resources available at my organisation to address implementing chemicals traceability?
How much budget is allocated to this topic?
How many and which departments address this topic?

Life cycle perspective

What is my organisation's role in the value chain?
Which perspective will I take to use this canvas (supply chain / life cycle / etc.)?

Purpose of this canvas

What is my major goal when using this tool?

2. PRODUCT

Specific material properties needed

What are the specific properties (e.g. functionality, quality) needed in the materials in question?
How does this relate to the supply chains we are looking at (e.g. unique suppliers, intellectual property issues)?

Materials and processes used by my organisation and its partners

What are the specific materials and processes for which I want chemicals traceability?

Risks

What are the most critical material properties and related chemicals to address?
What kind of regulatory and reputational risk is associated with these chemicals or could be addressed by traceability?

3. LEGISLATION

Applying regulations

Which regulations (national, EU, global) do I have to consider?
Where am I lacking information on regulations and where could I get it?

3. ACTORS

Supply chains

What are my current supply chains?
What might be the most advanced/standard/easiest supply chain to begin with implementing chemicals traceability?

Supplier mapping

How are my suppliers connected?
Visualise this network as complete as possible (use a separate sheet of paper, if necessary):

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STATUS-QUO | OBJECTIVES & VISION

Filled-out by:	Project:	Iteration No.:	Date:

Primary objectives

What are the primary reasons for my organisation to implement chemicals traceability?
Consider issues such as compliance, risks for consumers and the environment
as well as economic viability.

Chemicals traceability KPI

What baseline measurements do we currently have against which to compare future improvements?
What specific, measurable metrics could we use to track chemical management performance?

Synergy potential

Business model

What might be the business case for chemicals traceability beyond mere regulatory compliance?
How can we move from "must-have" to a real business-driver?

Objectives of value chain partners

What might be the objectives of partners along my value chains to implement chemicals traceability?

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Chemicals Traceability Canvas

STATUS-QUO | CURRENT PRACTICE & IMPLEMENTATION GAPS

Filled-out by:	Project:	Iteration No.:	Date:

1. CURRENT PRACTICES - INPUT OF DATA

Validation and evaluation of input data?

How do we validate and evaluate the data we receive from our suppliers?

Data quality and integrity

What is the current degree of quality and integrity of the data we receive from our suppliers?

What is the variance of this data across different value chains?

2. CURRENT PRACTICES - INSIDE ORGANISATION

Monitoring and audits

How are we currently monitoring how we manage data on chemicals?

How does this align with our traceability KPI (see board "Objectives & Vision)"?

Data quality and integrity

What is the current degree of quality and integrity of the data on chemicals used in our organisation?

Does this quality and integrity change over time while the data is tranferred inside the organisation?

Data distribution and access **inside** organisation

Who has access to what data?

How is data exchanged between departments?

Passing on data along value chains

What data is passed on by us in our value chains and to other stakeholders?

How is this data passed on?

Barrieres & conflicts of interest

What are current interests when implementing chemicals traceability?

Where are potential conflicts of interest (e.g. between various departments and roles) and how can we address them constructively?

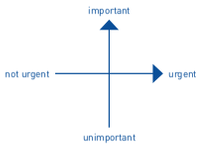
Gaps

What is missing to align our practice with these objectives?

Relevant issues

What are the most urgent issues we have to address?

Using a framework of important-unimportant and urgent-not urgent, which issues fall into the category important and urgent?



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FUTURE OUTLOOK | STRATEGIES & PROCESSES

Filled-out by: | Project: | Iteration No.: | Date:

1. PEOPLE INVOLVED

Human resources

Who can take on which task?
Who needs to be trained?
Who needs to be hired?

External service partners

What are relevant third parties that could support us in the transition to and maintenance of chemicals traceability?
What are the pros and cons of cooperating with them?

Collaborations

How might we collaborate with competitors?
How might we collaborate along our value chains?

2. DATA MANAGEMENT

Chemical compliance

How could we continuously monitor and adapt to evolving regulatory requirements?
What training and communication strategies will ensure consistent understanding of compliance protocols across my organisation?

Chemical data processing standardisation

What standardised approaches could we implement for chemical data management and interoperability with the existing system?
How will standardised data processing facilitate effective sourcing, procurement decision-making and reporting?

Chemical data sharing

What specific types of chemical information can be safely and legally shared across different stakeholders?
How will we establish secure and authenticated channels for chemical data transmission?
What are the precise consent and transparency protocols for sharing chemical information?

3. TECHNOLOGY

Technology infrastructure

What technological infrastructure is required to support secure and efficient chemical data sharing (hardware and software)?
What type of Chemical Management Systems ist needed?
How can we achieve integration across this infrastructure?

Interoperability

How can we ensure interoperability
... across departments?
... with other organisations?
... with other countries?

Life cycle perspective

Do I address this for 1st use or after-use?
How does this affect our processes?

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